



Docket No.: M4065.0184/P184/A
(PATENT)

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Alan G. Wood, et al.

Application No.: 09/930,295

Group Art Unit: 2815

Filed: August 16, 2001

Examiner: C. Chu

For: SEMICONDUCTOR DEVICE PACKAGE
AND METHOD

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REQUEST FOR RECONSIDERATION

Box AF
Commissioner for Patents
Washington, DC 20231

Dear Sir:

In the Office Action dated September 11, 2002, claims 25 and 28-34 were rejected under 35 U.S.C. 102(b) as being anticipated by Heo. Reconsideration is respectfully requested. Claim 25 discloses "a semiconductor device package, comprising [] a metal layer formed between said semiconductor device and said dielectric substrate having edges formed by said dicing operation." This is an important feature of the invention. Heo does not teach or suggest the metal layer of the claimed invention. Rather, Heo provides a "copper sheet 21, the upper and lower sides of copper sheet 21 being coated with a nonconductive material [22]" with the semiconductor attached to one of the nonconductive material. (col. 6, lines 60-67). Hence, Heo discloses a metal layer between two dielectric layers rather than a metal layer between a semiconductor device and a dielectric layer.

The metal layer 62 in the claimed invention is not the circuit pattern, but a solid layer to stiffen the semiconductor device package and furthermore to be used as a heat sink to dissipate heat from the semiconductor device. In addition, the metal layer may be used

as an electrical ground plane. Heo's device, i.e. the multi-layer film, does not anticipate the claimed invention which has a metal layer between the semiconductor device and the dielectric substate. Claims 28-34 should be allowable along with claim 25 and for other reasons.

Claim 26 was rejected under 35 U.S.C. 103(a) as being unpatentable over Heo in view of Marcantonio. Reconsideration is respectfully requested. Claim 26 should be allowable along with claim 25. Furthermore, Marcantonio does not teach or suggest a metal layer between the semiconductor device and the dielectric substrate but discloses a metal layer "on one side of the dielectric body of the package." (col. 4, lines 48-49). More specifically, Marcantonio provides a "heat spreader" 214 which is disposed on a side opposite to that of both the integrated circuit chip 212 and the dielectric layers 224, 226, 228 (col. 4, lines 41-67). Marcantonio would suffer from the drawbacks of the prior art described in Applicant's specification on page 2, namely, a package without sufficient stiffness.

A Request for Continued Examination is being filed concurrently herewith. In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue.

Dated: November 4, 2002

Respectfully submitted,

By 

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